

Graduate School of Education

Bilkent University

**TE 546 - 001
Computer Teaching Methods II
2009-2010 Fall**

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The code and name of course	TE 546 – Computer Teaching Methods II (Special Teaching Methods in Computing II)
Date	Wednesday
Time	08:40-12:30
Place of course	Lab 7(GB 54)
Credit	2-2-3
Period	2009 - 2010 Fall Semester

I. Catalogue Entry for this Course

Continuation of Computer Teaching Methods I, Further understanding of the teaching and learning methods with may be used with different groups of school students, and of the context in which learning is set. Further practical applications including microteaching (Preparing lesson plans and teaching materials on selected topics from school curricula, teaching in the classroom environment, evaluating teaching according to the computer

teacher competencies)

II. Course Description and Overview:

This course extends some of the teaching and learning strategies from Computer Teaching Methods 1, as well as introducing you to innovatory approaches for integrating ICT into the school curriculum.

The key question that determines the teaching and learning processes in this course is

"How can the use of Information Communication Technology (ICT) improve student learning in the classroom and more broadly different groups of students across the school's curricula?"

The answer to this question is determined within a constructivist curriculum framework that values independent learning, developing problem solving skills, critical reflection, collaboration, and the systematic integration of the technology.

How the integration of ICT affects student learning, likely changes to the teacher's classroom role, and relevant classroom management strategies are investigated in this course through critically assessing relevant research.

You also learn how teachers can help a school successfully integrate ICT in its curricula through a systematic technology planning process and adopting a 'change agent' role.

Given this course is designed on constructivist lines, and incorporates a problem based learning approach; students are expected to work as self-directed and independent learners. The practical sessions will not focus on teaching you how to use education software or aspects of technology hardware. Rather you learn how to integrate ICT by developing meaningful learning activities in selected curriculum areas.

The course is divided into the following major areas of study: review of research findings regarding the outcomes of using ICT in schools; analysis of the competencies required by

the ICT teacher; concept of curriculum, rationale and methods for integrating ICT within the curriculum illustrated by various models and examples; selection and development of ICT learning resources at classroom and school levels; extension of micro-teaching skills encompassing project and problem based learning, games, simulations, databases, electronic portfolios, online learning tutorials, drill and practice; role of ICT teacher in organizational change and professional development; school based ICT planning, implementation, management and evaluation.

III. Course Objectives:

At the end of the course students should be able to:

- Make considered judgements about the impact that ICT is having on student learning in schools through a systematic study of relevant research literature
- Evaluate the rationale for using ICT within a constructivist framework
- Articulate the necessary competencies, skills, knowledge, experience and attitude profile needed for success as an ICT teacher
- Demonstrate their ability to successfully integrate ICT within selected curriculum contexts through preparing lesson plans that take advantage of the key attributes of ICT as a learning tool and process
- Select and evaluate ICT learning resources through rigorously applying relevant education criteria
- Create and trial ICT based learning resources that are relevant to the changing needs of classroom teachers and schools
- Enhance their developing professional expertise by adopting a reflective and critical perspective on the practical uses of ICT in education
- Work collaboratively in task oriented groups to solve significant problems
- Act as a 'change agent' in helping schools successfully integrate ICT into the curriculum through organizational transformation and the professional development of teachers

- Demonstrate that they can apply the techniques needed for the formulation of a school technology plan, its implementation and the evaluation of outcomes

Secondary Objectives;

- ✓ Developing teaching and learning skills
- ✓ Developing presentation skills
- ✓ Developing thinking skills
- ✓ Planning and evaluate teaching
- ✓ Gaining conceptual knowledge
- ✓ Gaining knowledge of teaching approaches, methods, techniques and principles
- ✓ Using the results of assessment to evaluate students progress and achievement
- ✓ Designing educational web sites
- ✓ Designing educational software
- ✓ Designing educational worksheets in computing
- ✓ Designing and Integrating Educational worksheets in other courses
- ✓ Designing personal E-portfolio
- ✓ Using multimedia technologies in teaching (such as interactive white boards)
- ✓ Being aware of educational technologies changing for professional development, knowledge generation, advocacy, leadership for innovation, networking opportunities, and guidance as they face the challenge of transforming education
- ✓ Being aware of ISTE which provides leadership and service to improve teaching, learning, and school leadership by advancing the effective use of technology in PK-12 and teacher education; the National Educational Technology Standards (NETS), the Center for Applied Research in Educational Technology (CARET), and the National Educational Computing Conference (NECC).

IV. Overview of Activities and Weekly Schedule

Week	Week beginning	Topics	Assignments and Exams	Readings
1	16 Sep.	Introduction and overview of course. Lecturer's expectations and approach to learning. Assignments. Policy on attendance, lateness and		Readings will be provided on the Moodle site for this topics. *Please read the article before come to class. It

		<p>submission of assessments.</p> <p>Two hour discussion topics:</p> <p>Why is it important that ICT be used within a constructivism framework? What does research tell us about the outcomes of using ICT in high schools? What are the claimed benefits? What are the problems and issues? How can they be overcome?</p> <p>Two hour lab session</p>		will be on Moodle page.
2	23 Sep.	<p>Two hour discussion topic:</p> <p>What key competencies must the ICT teacher have for success at the classroom and school level?</p> <p>Two hour lab session</p>	Article assignment 1	
3	30 Sep.	<p>Two hour discussion topic:</p> <p>How can ICT are integrated into the curriculum? Models and approaches. What are the typical problems teachers face prior, during and after the integration of ICT takes place? How can these problems be</p>		Readings will be provided on the Moodle site for this topic.

		resolved? Two hour lab session		
4	7 Oct.	Two hour discussion topic: How can ICT are integrated into the curriculum? Critical review of online case studies using ICT in the curriculum – review at least 8 subject areas. : Golden High School case study. How should ICT be integrated into a discipline study area? What are the different principles and processes that can be used to systematically integrate ICT? Two hour lab session	Article assignment 2	
5	14 Oct.	Two hour discussion topic: How should a classroom teacher and more broadly a school select and evaluate ICT learning resources? Adopting appropriate criteria – what are their strengths and weaknesses. What is the role of the ICT teacher in this process?		Readings will be provided on the Moodle site for this topic.

		Two hour lab session		
6	21 Oct.	<p>One hour discussion topic:</p> <p>Development of micro-teaching skills – simulations, drill and practice, e-learning website, problem solving software, generic software, communication and demonstration, and computer assisted learning</p> <p>Three hour lab session</p>	<p>First submission of electronic portfolio</p> <p>Article assignment 3</p>	
7	28 Oct.	<p>Two hour discussion topic:</p> <p>what are the key skills, knowledge and attitudes needed by the ICT teacher for success in schools?</p> <p>The ICT teacher as 'change agent' within the school curricula</p> <p>Two hour lab session</p>		Readings will be provided on the Moodle site for this topics.
8	4 Nov.	Development of micro-teaching skills continued	Article assignment 4	
9	11 Nov.	Development of micro-	Submit	

		teaching skills continued Three hour lab session	Integration of ICT project	
10	18 Nov.	Mid-Term Exam	Mid-Term Exam	
11	2 Dec.	Two hour discussion topic: Professional ICT development of classroom teachers Two hour lab session		Readings will be provided on the Moodle site for this topic.
12	9 Dec.	Two hour discussion topic: Developing a School based ICT Plan – goals, planning process, managing the process. What is the role and responsibility of the ICT teacher in developing the ICT plan? Two hour lab session	Group presentations Article assignment 5	
13	16 Dec.	One hour discussion topic: Implementation and evaluation of the ICT plan Three hour lab session		
14	23 Dec.	Review of major themes of the course. Evaluation of the course	Second submission of electronic	

			portfolio.	
15	30 Dec.	Final Exam		

V. Assessments

- ❖ Course work 40%
- ❖ Participation 10%
- ❖ Midterm exam 20%
- ❖ Final Exam 30%

Here are details;

Course work 40% (ICT project {group presentation, report}, E-portfolio, Article assignment)

Assessed coursework is shown on the weekly schedule. Full details of each and the criteria by which it will be assessed will be given in class, well in advance of the date of submission.

- 1.** ICT project {group presentation, report} %15
- 2.** E-portfolio %15
- 3.** Article assignment %10

Participation 10%

1. Attendance and punctuality

- Each absence without a medical report -3%
(Reminder that more than 3 absence = Fail)
- Each time "**Late**" -1/2
(**'Late'** means after the lesson has started)

- 2. Participation and attitude in class.** Do you actively participate in a polite and agreeable manner, as assessed by the instructor or mentor?

A student who participates well does the following;

- ✓ Comes prepared for class: homework tasks complete, materials available
- ✓ Listen: actively, eyes on speaker, non-verbal signs of attention, does not chat to friends
- ✓ Responds: answer questions, responds when class asked for opinion
- ✓ Contributes: makes voluntary contributions to discussion. Contributions are relevant
- ✓ Evaluates self: changes behavior based on feedback (from students or instructor)
- ✓ Joins in activities with energy and enthusiasm, initiates rather than sits and waits
- ✓ Writes: records the lesson and own reflections during class, and later as necessary
- ✓ Assists the lesson: helps communication, finds solutions, helps in the running of the lesson

Midterm exam **20%**

Final Exam **30%**

The final exam will be 2.5 hours long. It will be set on the work done over the whole semester. It will consist of free response questions involving analysis, application, and synthesis.

VI. References:

- Thomas, L., & Bitter, G. G. (Eds.) (2000). National Educational Technology Standards: Connecting Curriculum and Technology. Eugene, OR: ISTE.
- Rupert, W. (2008). Dialogic, Education and Technology: Expanding the Space of Learning: Springer
- Gillespie, H.(2006). Unlocking learning and teaching with ICT : identifying and overcoming
- Johnstone, B. (2006). I have computers in my classroom—now what?
- Leask,M. (2006). Learning to teach using ICT in the secondary school.
- Leask,M. (2006). Issues in teaching using ICT
- Buckingham, D.(2007). Beyond technology : children's learning in the age of digital culture
- Forrest,P.W.(2006). Curriculum and instruction for becoming a teacher
- Newby, T.J. at all (2005). Educational Technology for Teaching and Learning (3rd Edition)
- Roblyer, M.D. (2006). Integrating Educational Technology into Teaching (4th Edition) : PEARSON

* Supplementary reading for the course will be either posted on the course website, available elsewhere online or in the library.